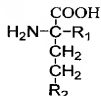


# Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

## Listing of Claims:

1. (Currently Amended) An anti-mycobacterial composition comprising a mycobacterial glutamine synthetase (MbGS) inhibitor of Formula 1:

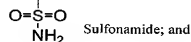
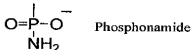
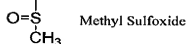
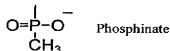
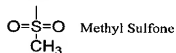
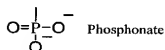


Formula 1

wherein:

$\text{R}_1$  = branched and straight-chain alkyl groups of 1 to 8 carbons, and

$\text{R}_2$  = tetrahedral group selected from the group consisting of:



wherein said anti-mycobacterial composition effectively inhibits MbGS but does not substantially inhibit mammalian glutamine synthetase (MGS) in vivo if  $\text{R}_2$  is

phosphonate,  $R_1$  is not methyl; if  $R_2$  is phosphinate,  $R_1$  is not methyl and if  $R_2$  is methyl sulfoximine,  $R_1$  is not methyl or ethyl.

2. (Original) The anti-mycobacterial composition according to claim 1 wherein said  $R_1$  is branched and straight-chained alkyl groups of from two to four carbons.

3. (Canceled)

4. (Canceled)

5. (Currently Amended) A method for treating, palliating or inhibiting mycobacterial infections in a mammal comprising:

administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising ~~gamma-substituted alpha-amino-alpha-alkyl-butyrate~~ comprising a mycobacterial glutamine synthetase (MbGS) inhibitor of Formula 1:

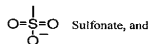
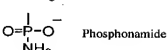
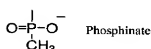
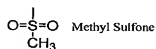
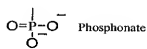


Formula I

wherein:

$\text{R}_1$  = branched and straight-chain alkyl groups of 1 to 8 carbons, and

$\text{R}_2$  = tetrahedral group selected from the group consisting of:



wherein said composition that effectively inhibits mycobacterial glutamine synthetase (MbGS), but does not substantially interfere with mammalian glutamine synthetase (MGS) *in vivo* in an anti-mycobacterial effective amount such that said mycobacterial infection is treated, palliated or inhibited.

6. (Canceled)

7. (Currently Amended) The method for treating mycobacterial infections in a mammal according to ~~claim 6~~ claim 5 wherein said alpha-alkyl group  $\text{R}_2$  comprises is branched and straight-chained alkyl groups from 2 to 4 carbons.

8. (Canceled)

9. (Canceled)

10. (Currently Amended) A method for treating, palliating or inhibiting mycobacterial infections in a mammal comprising:

administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising alpha-methyl-L-methionine-S-sulfoxaminesulfoximine ( $\alpha$ -Me-MSO) or alpha-ethyl-L-methionine-S-sulfoxaminesulfoximine ( $\alpha$ -Et-MSO) wherein said anti-mycobacterial composition effectively inhibits MbGS but does not substantially inhibit mammalian glutamine synthetase (MGS) in vivo at an anti-mycobacterial effective amount.

11. (Original) The method according to claim 5 further comprising co-administering an anti-microbial effective amount of isoniazid (INH).

12. (Original) The method for treating, palliating or inhibiting mycobacterial infections in a mammal according to any one of claims 5 to 11 wherein said mammal is selected from the group consisting of humans, monkeys, cows, pigs, horses, rabbits, rodents, cats and dogs.

13. (Original) The method for treating, palliating or inhibiting mycobacterial infections in a mammal according to any one of claims 5 to 11 wherein said mycobacterial infection is caused by a member of the genus *Mycobacterium* selected from the group consisting of *M. tuberculosis*, *M. bovis*, *M. avium*.

14. (Currently Amended) A method for treating, palliating or inhibiting mycobacterial infections in a mammal comprising:

co-administering an[[d]] anti-mycobacterial effective amount of L-methionine-SR-sulfoximine (MSO) and ascorbic acid.

15. (New) A method for treating, palliating or inhibiting mycobacterial infections in a mammal comprising:

administering to a mammal having a mycobacterial infection an anti-microbial effective amount of an anti-mycobacterial composition comprising alpha-methyl-D, L-methionine-SR-sulfoximine ( $\alpha$ -Me-MSO) or alpha-ethyl-D,L-methionine-SR-sulfoximine ( $\alpha$ -Et-MSO) wherein said anti-mycobacterial composition effectively inhibits MbGS but does not substantially inhibit mammalian glutamine synthetase (MGS) *in vivo* at an anti-mycobacterial effective amount.

16. (New) The method according to claim 15 wherein said anti-mycobacterial composition is alpha-methyl-L-methionine-SR-sulfoximine or alpha-ethyl-L-methionine-SR-sulfoximine.